

User's Manual



MDA 2V EQ, MDA 4V EQ, and MDA 4SV EQ

VersaTools® Video Mini Distribution Amplifiers

Precautions

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservier les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de le contourner ni de le désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección de los cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/ mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:

Extron Electronics
1230 South Lewis Street
Anaheim, CA 92805, USA

Asia:

Extron Electronics, Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363

Europe, Africa, and the Middle East:

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort
The Netherlands

Japan:

Extron Electronics, Japan
Daisan DMJ Bldg. 6F,
3-9-1 Kudan Minami
Chiyoda-ku, Tokyo 102-0074
Japan

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 (USA), 31.33.453.4040 (Europe), 65.6383.4400 (Asia), or 81.3.3511.7655 (Japan) to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

Quick Start Guide — MDA EQ Series

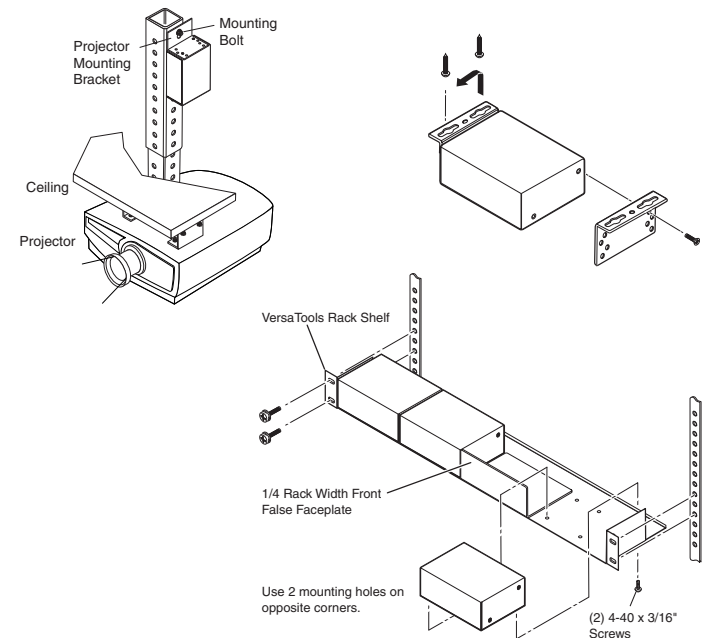
To install and set up an MDA EQ Series mini distribution amplifier, follow these steps:

Step 1

Turn all of the equipment off and disconnect it from the power source.

Step 2

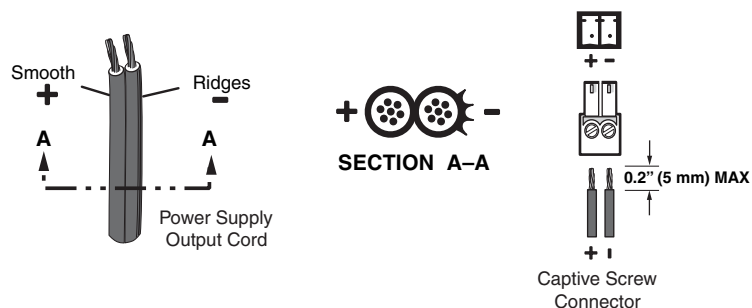
Mount the MDA EQ on a projector, under a desktop, or on a rack shelf, as illustrated below. (The illustration shows a VersaTools® rack shelf; you can also use the standard or 6-inch deep Universal 19-inch rack shelves. See *Optional Accessories* in appendix A.)



Step 3

Wire the MDA EQ power cord and connect it. To wire the power cord, follow these steps, and refer to the illustration on the next page.

- a. Cut the DC output cord to the length needed.
- b. Strip the jacket to expose 0.2 inches (5 mm) of the conductors.
- c. Slide the leads into the supplied captive screw plug and lock them, using an Extron Tweaker (small screwdriver).



Wiring the power cord

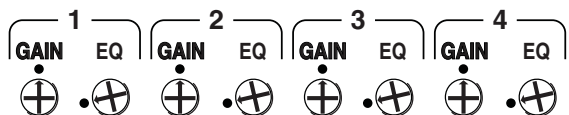
Step 4

Connect power cords to the input and the outputs, and turn on the equipment.

Step 5

Adjust the potentiometers for the outputs, using an Extron Tweeker.

If using very short output cables, set all pots to the default setting (the arrow on the pot pointing to the dot beside it; see illustration below).



Potentiometers at default settings

If using long cables, follow these steps:

- Supply the Color Bars test signal to the input. (Recommendation: Use an Extron VTG 300 Video Test Generator to generate the test signal.)
- Adjust the Gain pot for output 1 until the signal level at the far end is the same as the input (or the display shows the correct brightness and contrast).
- Adjust the EQ pot for output 1 so that no overshoot or round front corner appears at the far end on the scope (or you see a sharp picture with no smearing).
- Repeat steps 2 and 3 for the rest of the outputs.

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1

Chapter One

Introduction

About this Manual

About the MDA EQ Series Mini Distribution Amplifiers

Introduction

About this Manual

This manual provides information on the Extron VersaTools® MDA EQ series video distribution amplifiers and discusses how to install and operate them.

About the MDA EQ Series Mini Distribution Amplifiers

The Extron MDA EQ series are compact composite video and S-video mini distribution amplifiers with individual output gain and equalization controls that compensate for different cable lengths for each output. (Each adjustment on the MDA 4SV EQ model equalizes two outputs.) The MDA EQ products are also line drivers, able to handle 1000 feet of Extron Mini HR cable.

Models

MDA 2V EQ — One input, two output composite video distribution amplifier with equalization and gain controls for each output

MDA 4V EQ — One input, four output composite video distribution amplifier with equalization and gain controls for each output

MDA 4SV EQ — One input, four output S-video distribution amplifier with equalization and gain controls for every two outputs and phase control for Chroma channel

Features

Individual equalization and gain controls — Gain and equalization (EQ) adjustments allow optimized compensation for outputs with various cable lengths for different applications.

Video loop-through — All models feature a 75 ohm video loop-through connector, which provides for local monitoring and cascading to another distribution amplifier.

Power supply — An external desktop 12 VDC power supply with a two-pin captive screw connector. It accepts 100 to 240 VAC input.

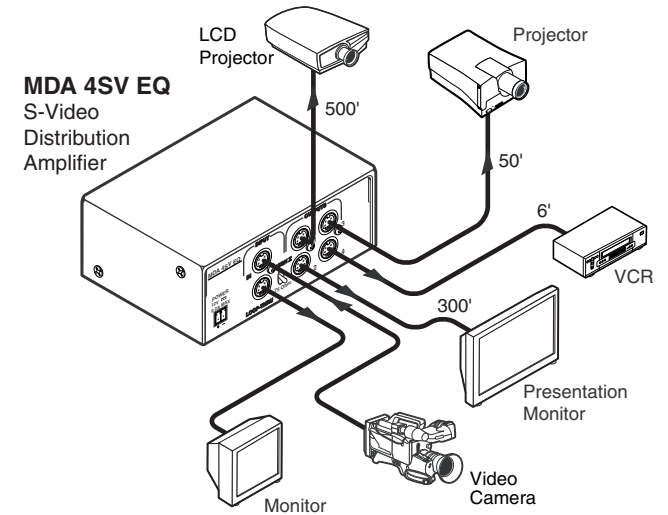
Enclosure — All models have the light, compact VersaTools 1U quarter rack enclosure, three inches in depth.

Rack, projector, and furniture mountability — All models can be mounted on a rack shelf, under a desk or podium, or on a projector.

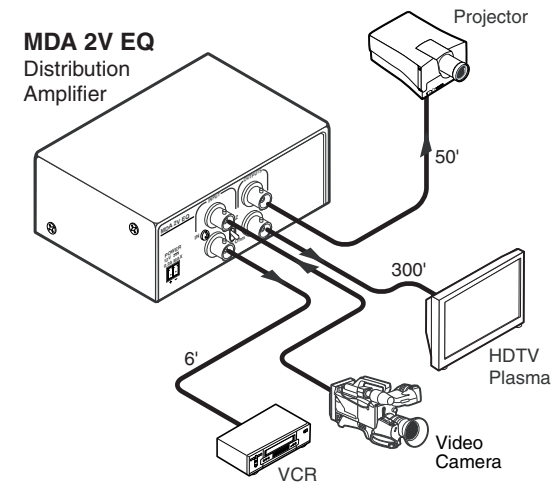
Global accessibility — Quad compatibility and universal power supply enables the MDA EQ to be used worldwide.

Connection diagrams

The following diagrams give examples of how the various supported devices can be connected to an MDA EQ series product. (These diagrams show connections for the MDA 2V EQ and the MDA 4SV EQ). Use them as guides for all MDA EQ connections.



Example of devices connected to an MDA 4SV EQ



Example of devices connected to an MDA 2V EQ



2

Chapter Two

Installation and Operation

Mounting the MDA EQ Series

Rear Panel Features and Cabling

Front Panel Features and Operation

Installation and Operation, cont'd

Mounting the MDA EQ Series

The MDA EQ mini distribution amplifiers can be set on a table; mounted on a rack shelf; attached to a projector; or mounted under a desk, podium, or tabletop.

Tabletop use

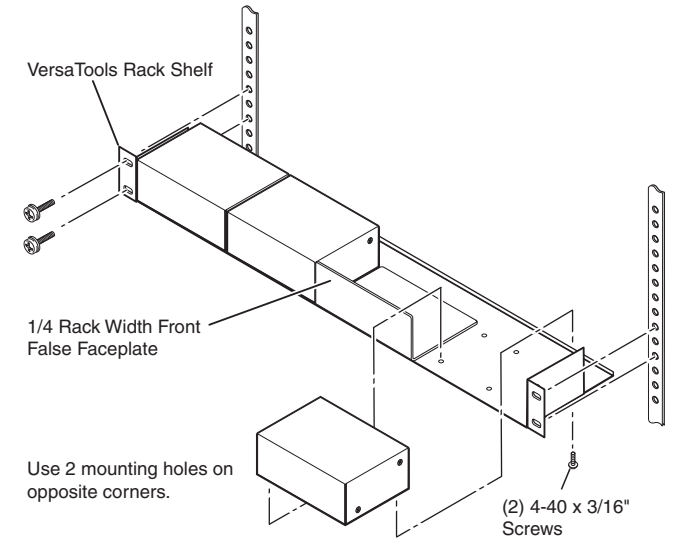
Four self-adhesive rubber feet are included with the MDA EQ. For tabletop use, attach one foot at each corner of the bottom side of the unit and place the unit in the desired location.

Rack mounting

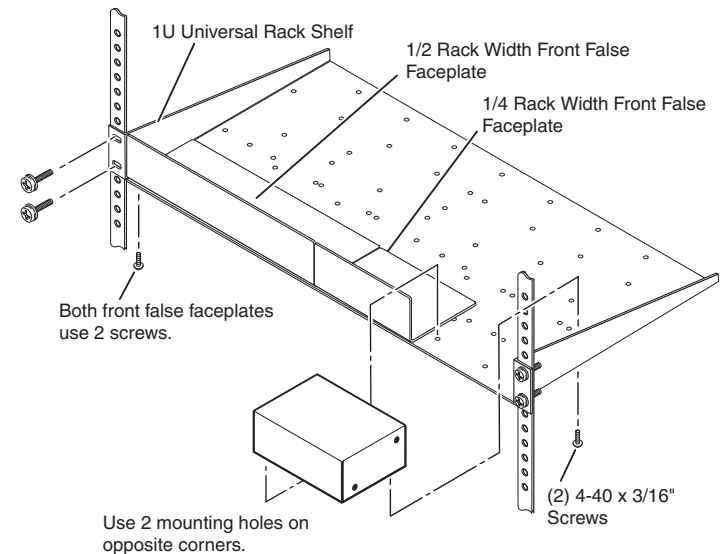
For rack mounting, do not install the rubber feet. Mount the distribution amplifier on a 19" 1U VersaTools® rack shelf (Extron part #60-190-20 or 60-604-20), a standard 1U Universal or Basic rack shelf (Extron part #60-190-01 or 60-604-01), or a Universal or Basic 6-inch Deep Rack Shelf (Extron part #60-190-10 or 60-604-10).

NOTE Only products in the VersaTools and IP Link lines can be mounted on a VersaTools shelf. Any 1U rack-mountable Extron product can be mounted on the standard shelf.

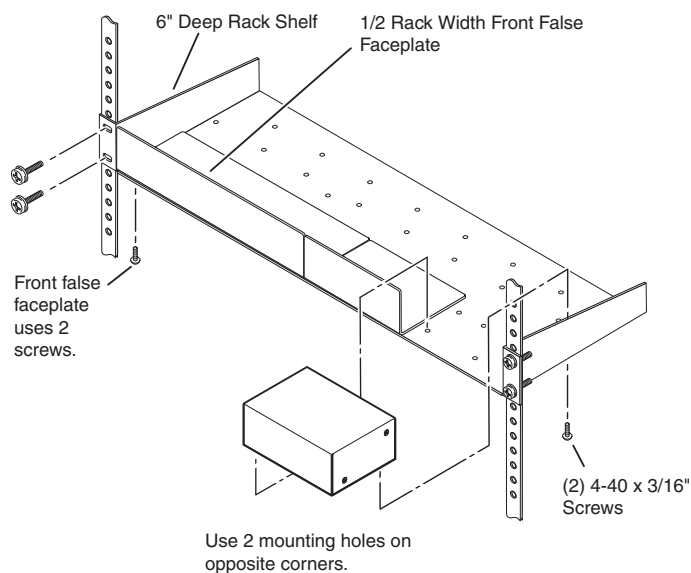
1. If feet were previously installed on the bottom of the MDA, remove them.
2. Mount the MDA EQ on the rack shelf, using two 4-40 x 3/16" screws in opposite (diagonal) corners to secure the unit to the shelf.
3. Install blank panel(s) or other unit(s) on the rack shelf.



Mounting MDAs on a VersaTools rack shelf



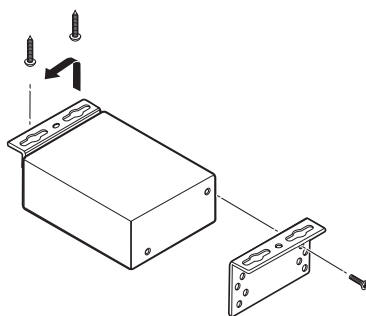
Mounting an MDA EQ on a standard rack shelf



Mounting an MDA EQ on a 6-inch rack shelf

Furniture mounting

To furniture-mount the MDA EQ, use the optional under-desk mounting kit (part #70-212-01), as follows.



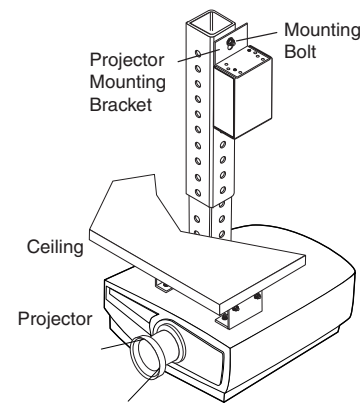
Preparing the MDA EQ for under-desk mounting

1. If rubber feet were previously attached to the bottom of the unit, remove them.

2. Attach the mounting brackets to the MDA EQ with the provided machine screws as shown in the previous figure.
3. Hold the unit with the attached brackets against the underside of the table or other furniture. On the mounting surface, mark the location of the bracket's screw holes.
4. Drill 3/32" (2 mm) diameter pilot holes, 1/4" (6.3 mm) deep in the mounting surface at the marked screw locations.
5. Insert #8 wood screws into the four pilot holes. Tighten each screw into the mounting surface until slightly less than 1/4" of the screw head protrudes.
6. Align the mounting screws with the slots in the brackets and place the unit against the surface, with the screws through the bracket slots.
7. Slide the unit slightly forward or back, then tighten all four screws to secure it in place.

Projector mounting

To projector-mount the MDA EQ, use the optional projector mounting kit (part # 70-217-01) as follows.



Projector-mounting an MDA EQ

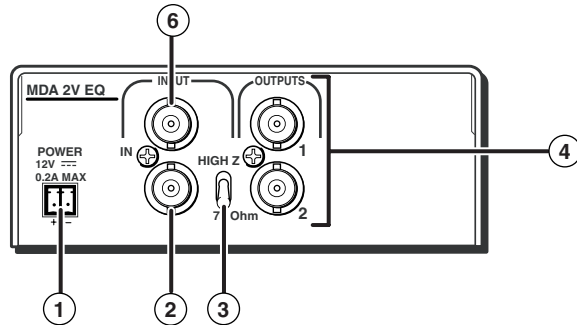
1. If rubber feet were previously installed on the bottom of the unit, remove them.
2. Attach the mounting brackets to the MDA EQ with the provided machine screws.

Installation and Operation, cont'd

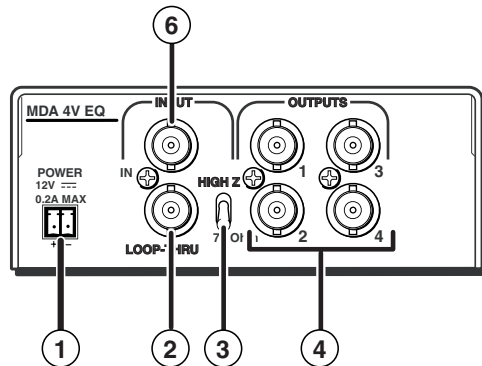
- Secure the unit to a projector mount or other surface by inserting the mounting bolt through the bracket's slotted hole.

Rear Panel Features and Cabling

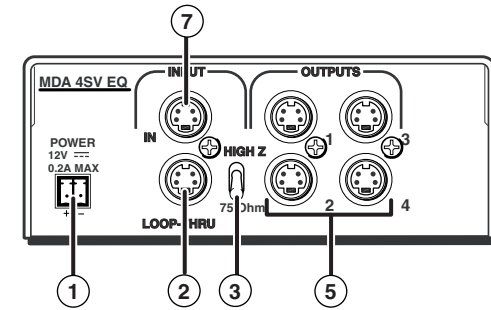
The following figures show the back panel configurations of the three MDA EQ models.



MDA 2V EQ rear panel



MDA 4V EQ rear panel



MDA 4SV EQ rear panel

- Power connector** — Plug the external 12 VDC power supply into this 2-pin, 3.5 mm captive screw connector. The power supply is included with the unit.

To wire the connector:

- Cut the DC output cord to the length needed.
- Strip the jacket to expose **0.2 inches (5 mm)** of the conductors.

WARNING

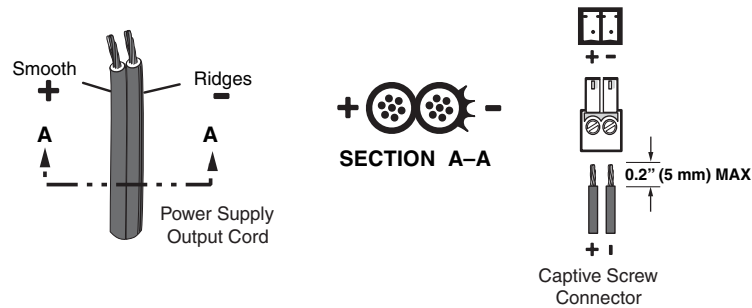
Exposing more than 0.2" (5 mm) of the copper wires could allow the stripped wires to touch each other, causing a short circuit. This could result in the external DC power supply overheating and/or burning.

NOTE

Stripping the wires to expose *less* than the recommended amount causes them to slide out of the connector too easily, even if they are tightly pinched by the captive screws.

- Slide the leads into the supplied captive screw plug and lock them, using an Extron Tweaker (small screwdriver).
- To verify the power cord's polarity before connecting it, plug in the power supply with no load and check the output with a voltmeter.

The figure on the next page shows how to wire the connector.



Power connector wiring

CAUTION

Do not tin the stripped power supply leads before installing the captive screw connector. Tinned wires are not as secure in the captive screw connectors and can be easily pulled out. They may also break after being bent several times.

WARNING

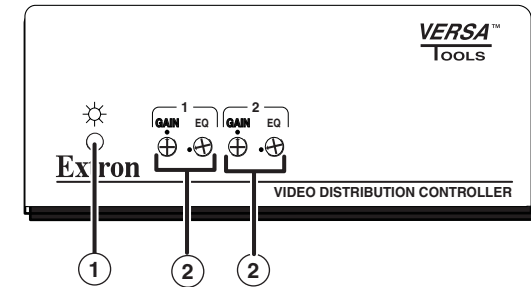
The two power cord wires must be kept separate while the power supply is plugged in. Remove power before wiring.

Alternatively, an Extron P/S 100 Universal 12 VDC Power Supply can power up to ten MDAs or other Extron 12 VDC devices using only one AC power connector.

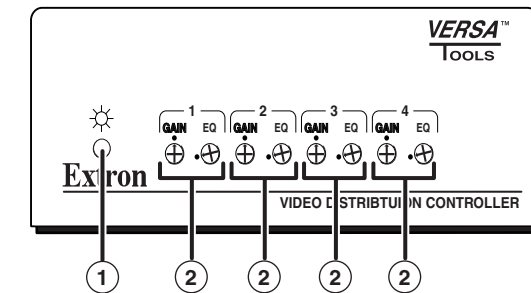
- ② **Passive Loop-Thru connector** — Connect a monitor (optional) to this female BNC connector (composite video) or 4-pin mini DIN connector (S-video).
- ③ **Toggle switch** — Set this switch to HIGH Z if a monitor is plugged into the Passive Loop Thru connector. Setting this switch to 75 OHM simulates a monitor when none is attached to the Loop Thru connector.
- ④ **Output connectors (composite video)** — Connect up to two (MDA 2V EQ) or four (MDA 4V EQ) composite video devices to these BNC connectors.
- ⑤ **Output connectors (S-video)** — Connect up to four S-video devices to these 4-pin mini DIN connectors.
- ⑥ **Input connector** — Connect a composite video input source to this BNC connector.
- ⑦ **Input connector** — Connect an S-video input source to this 4-pin mini DIN connector.

Front Panel Features and Operation

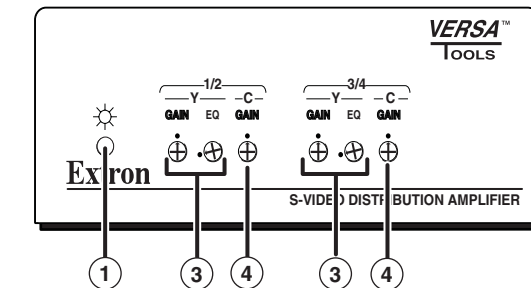
The following figures show the front panel configurations of the three MDA EQ models.



MDA 2V EQ front panel



MDA 4V EQ front panel



MDA 4SV EQ

Installation and Operation, cont'd

- ① **Power indicator LED** — This LED, when lit, indicates that the MDA EQ is receiving power.
- ② **Gain and Equalization potentiometers** — (One set for each output for MDA 2V and 4V EQ; one set for each pair of outputs for MDA 4SV EQ) Use an Extron Tweeker (a small screwdriver) to rotate these pots to adjust for gain and equalization when devices with long cables are connected.
- ③ **Gain and Equalization potentiometers (luma)** — (MDA SV4 EQ only; one set for each pair of outputs) Use an Extron Tweeker to rotate these pots to adjust the luminance gain and equalization for devices connected with long cables.
- ④ **Gain potentiometer (chroma)** — (MDA SV4 EQ only; one for each pair of outputs) Use an Extron Tweeker to rotate this pot to adjust the chroma gain.



MDA EQ Series

Appendix A

Specifications, Part Numbers, and Accessories

Specifications

Models

Included Parts

Optional Accessories

Specifications, Parts, and Accessories

Specifications

Video

Gain	-1dB to +3 dB (x 0.9 to x 1.4), adjustable per output*
Equalization	0 dB to +10 dB (x1 to x3) at 8 MHz, adjustable per output*
*Per output for composite video, per every two outputs for S-video.	
Bandwidth	150 MHz (-3 dB)

Video input and loop-through

Number/signal type	
MDA 2V EQ, MDA 4V EQ	1 composite video input, 1 passive composite video loop-through
MDA 4SV EQ	1 S-video input, 1 passive S-video loop-through
Connectors	
MDA 2V EQ, MDA 4V EQ	1 female BNC (input), 1 female BNC (loop-through)
MDA 4SV EQ	1 female 4-pin mini DIN (input), 1 female 4-pin mini DIN (loop-through),
Nominal level	1 Vp-p for Y of S-video, and for composite video 0.3 Vp-p for C of S-video
Minimum/maximum levels	
MDA 2V EQ, MDA 4V EQ	0.4 V to 2 Vp-p with no offset at unity gain
MDA 4SV EQ	Y: 0.4 V to 2 Vp-p with no offset at unity gain
Impedance	75 ohms
Return loss	
MDA 2V EQ, MDA 4V EQ	< -40 dB @ 0 to 10 MHz
MDA 4SV EQ	< -25 dB @ 0 to 10 MHz
DC offset (max. allowable)	4.0 V, AC coupled

Video output

Number/signal type	
MDA 2V EQ	2 composite video
MDA 4V EQ	4 composite video
MDA 4SV EQ	4 S-video
Connectors	
MDA 2V EQ	2 female BNC
MDA 4V EQ	4 female BNC

MDA 4SV EQ	4 female 4-pin mini DIN
Nominal level	1 Vp-p for Y of S-video, and for composite video 0.3 Vp-p for C of S-video
Minimum/maximum levels	0.4 V to 2 Vp-p
Impedance	75 ohms
Return loss	<-30 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset

Sync

Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
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General

External power supply	100 VAC to 240 VAC, 50/60 Hz, external, autoswitchable; to 12 VDC, 1 A, regulated
Power input requirements	12 VDC, 0.2 A
Temperature/humidity	Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, noncondensing Operating +32° to +122°F (0° to +50°C) / 10% to 90%, noncondensing
Rack mount	Yes, with optional 1U rack shelf, part #60-190-01 or 60-604-01; or VersaTools® rack shelf, part #60-190-20 or 60-604-20 Also furniture mountable with optional brackets
Enclosure type	Metal
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) 4.3 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
Product weight	0.7 lbs (0.3 kg)
Shipping weight	3 lbs (2 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE All nominal levels are at ±10%

NOTE Specifications are subject to change without notice.

Specifications, Parts, and Accessories, cont'd

Models

Model	Part number
MDA 2V EQ	60-696-01
MDA 4V EQ	60-697-01
MDA 4SV EQ	60-698-01

Included Parts

These items are included in each order for an MDA EQ series:

Included parts	Replacement part number
2-pin, 3.5 mm captive screw connector	
Desktop power supply	
Tweaker (small screwdriver)	
Rubber feet (not attached)	
MDA EQ Series User's Manual	

Optional Accessories

These items can be ordered separately:

Accessories	Part number
Extron 19" 1U Universal Rack Shelf	60-190-01
Extron 1U Basic Rack Shelf	60-604-01
Extron 1U 6" Deep Universal Rack Shelf	60-190-10
Extron 1U 6" Deep Basic Rack Shelf	60-604-10
VersaTools 1U Rack Shelf	60-190-20
VersaTools Basic Rack Shelf	60-604-20
Under-desk mounting kit (Versa Tools 1U)	70-212-01
Projector mounting kit	70-217-01
SVHSM-BNCF adapter	26-353-01
BNCM-RCAF adapter	10-264-02